

## WHAT IS CLAIMED IS:

- 1                   1.     An isolated population of antigen presenting cells expressing CD11c<sup>+</sup>,  
2     CD14<sup>+</sup>.
- 1                   2.     The isolated population of CD11c<sup>+</sup>, CD14<sup>+</sup> antigen presenting cells  
2     according to claim 1, wherein the antigen presenting cells are dendritic cells.
- 1                   3.     The isolated cell population according to claim 2, wherein the  
2     population is enriched for the CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells.
- 1                   4.     The isolated dendritic cell population according to claim 2, wherein the  
2     dendritic cell population is substantially enriched for mature dendritic cells.
- 1                   5.     The isolated dendritic cell population according to claim 2, wherein the  
2     dendritic cell population is substantially enriched for immature dendritic cells.
- 1                   6.     The isolated dendritic cell population according to claim 2, further  
2     comprising a predetermined antigen.
- 1                   7.     The isolated dendritic cell population according to claim 6, wherein the  
2     predetermined antigen is a tumor-specific antigen, a tumor associated antigen, a bacterial  
3     antigen, or a viral antigen.
- 1                   8.     The isolated dendritic cell population according to claim 7, wherein the  
2     tumor-associated antigen is a prostate-associated antigen.
- 1                   9.     The isolated dendritic cell population according to claim 8, wherein the  
2     prostate-associated antigen is prostate-specific antigen (PSA), prostate-specific membrane  
3     antigen (PSMA), or prostatic acid phosphatase (PAP).
- 1                   10.    The isolated dendritic cell population according to claim 6, wherein the  
2     predetermined antigen is an autoantigen.
- 1                   11.    The isolated dendritic cell population according to claim 2, further  
2     comprising at least one cytokine.

1                   12.     The isolated dendritic cell population according to claim 11, wherein  
2     the at least one cytokine is a proinflammatory cytokine.

1                   13.     The isolated dendritic cell population according to claim 12, wherein  
2     the proinflammatory cytokine is  $\text{TNF}\alpha$ ,  $\text{IL-1}\beta$ , or CD40 ligand.

1                   14.     The isolated dendritic cell population according to claim 11, wherein  
2     the at least one cytokine is an anti-inflammatory cytokine.

1                   15.     The isolated dendritic cell population according to claim 14, wherein  
2     the anti-inflammatory cytokine is IL-10,  $\text{TGF-}\beta$ , or  $\text{PGE}_2$ .

1                   16.     The isolated dendritic cell population according to claim 2, further  
2     comprising an enriched population of T cells, or NK cells.

1                   17.     The isolated dendritic cell population according to claim 16, wherein  
2     the enriched population of T cells is a cell population comprising isolated T cells.

1                   18.     The isolated dendritic cell population according to claim 16, wherein  
2     the isolated population of T cells is substantially enriched for T cells.

1                   19.     The isolated dendritic cell population according to claim 16, wherein  
2     the dendritic cell population and the T cell population are autologous, syngeneic, or  
3     allogeneic.

1                   20.     The isolated dendritic cell population according to claim 16, wherein  
2     the T cell population is substantially enriched for  $\text{CD4}^+$  T cells.

1                   21.     The isolated dendritic cell population according to claim 16, wherein  
2     the T cell population is substantially enriched for  $\text{CD8}^+$  T cells.

1                   22.     The isolated dendritic cell population according to claim 16, wherein  
2     the T cell population is comprised of a mixed population of  $\text{CD4}^+$  and  $\text{CD8}^+$  T cells.

1                   23.     The isolated dendritic cell population according to claim 16, wherein  
2     the enriched population of NK cells is a cell population comprising isolated NK cells.

1                   24.     The isolated dendritic cell population according to claim 16, wherein  
2 the enriched population of NK cells is a cell population substantially enriched for NK cells

1                   25.     The isolated dendritic cell population according to claim 16, wherein  
2 the dendritic cell population and the NK cell population are autologous, syngeneic, or  
3 allogeneic.

1                   26.     A composition comprising an isolated population of CD11c<sup>+</sup>, CD14<sup>+</sup>  
2 dendritic cells and a prostate-specific membrane antigen (PSMA).

1                   27.     The composition according to claim 26 further comprising an isolated  
2 population of T cells or NK cells.

1                   28.     A method for isolating a population of CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells,  
2 comprising:

3                   obtaining a population of dendritic cell precursors,

4                   differentiating the precursors into immature or mature dendritic cells, and

5                   selecting the population of CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells from the immature  
6 or mature dendritic cells.

1                   29.     The method according to claim 28, wherein the population of dendritic  
2 cell precursors is obtained by contacting a monocytic dendritic cell precursor-adhering  
3 substrate with a population of leukocytes.

1                   30.     The method according to claim 28, wherein the differentiation of  
2 dendritic cell precursors to immature and mature dendritic cells comprises culturing the  
3 precursors with at least one cytokine.

1                   31.     The method according to claim 30, wherein the at least one cytokine is  
2 GM-CSF, interleukin 4, GM-CSF and interleukin 4, interleukin 13, or interleukin 15.

1                   32.     The method according to claim 30, wherein the differentiation of  
2 dendritic cell precursors to immature and mature dendritic cells comprises culturing the  
3 precursors in the presence of plasma to promote the differentiation of the CD14<sup>+</sup> dendritic  
4 cells.

1                   33.     The method according to claim 28, wherein the differentiation of  
2     dendritic cell precursors to immature and mature dendritic cells comprises culturing the  
3     precursors with a predetermined antigen.

1                   34.     The method according to claim 28, wherein the isolation of CD11c<sup>+</sup>,  
2     CD14<sup>+</sup> dendritic cells from the immature and mature dendritic cells comprises

3                   admixing the population of dendritic cell precursors with a CD14 specific  
4     probe under conditions conducive to the formation of a complex with the CD14 expressing  
5     dendritic cells;

6                   detecting the CD14-expressing cells complexed with the CD14-specific probe;  
7     and

8                   selecting the CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells.

1                   35.     The method according to claim 34, wherein the CD14-specific probe is  
2     a CD14-specific antibody.

1                   36.     The method according to claim 28, wherein the selection of CD11c<sup>+</sup>,  
2     CD14<sup>+</sup> dendritic cells from the immature and mature dendritic cells comprises affinity  
3     selection of the CD14<sup>+</sup> dendritic cells with a CD14-specific probe coupled to a substrate.

1                   37.     The method according to claim 36, wherein the CD14-specific probe is  
2     an anti-CD14 antibody.

1                   38.     The method according to claim 36, wherein the substrate coupled to  
2     the CD14-specific probe is a magnetic bead.

1                   39.     The method according to claim 28, further comprising culturing the  
2     CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells to obtain an isolated population substantially enriched for  
3     mature dendritic cells.

1                   40.     A method for modulating an T cell response to a predetermined  
2     antigen, comprising:

3                   obtaining an isolated population of CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells;

4                   contacting the isolated population of CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells with a  
5 predetermined antigen; and

6                   contacting the isolated population of CD11c<sup>+</sup>, CD14<sup>+</sup> dendritic cells with T  
7 cells to modulate the T cell response to the predetermined antigen.

1                   41.     The method according to claim 40, wherein the CD11c<sup>+</sup>, CD14<sup>+</sup>  
2 dendritic cells have been obtained from skin, spleen, bone marrow, thymus, lymph nodes,  
3 peripheral blood, or cord blood.

1                   42.     The method according to claim 40, wherein the CD11c<sup>+</sup>, CD14<sup>+</sup>  
2 dendritic cells and the T cells are autologous, syngeneic, or allogeneic.

1                   43.     The method according to claim 40, wherein the CD11c<sup>+</sup>, CD14<sup>+</sup>  
2 dendritic cells are contacted with the T cells *in vitro* or *ex vivo*.

1                   44.     The method according to claim 40, wherein the predetermined antigen  
2 is a tumor-specific antigen, a tumor associated antigen, autoantigen, or a viral antigen.

1                   45.     The method according to claim 44, wherein the tumor-associated  
2 antigen is a prostate cancer-associated antigen.

1                   46.     The method according to claim 45, wherein the prostate cancer-  
2 associated antigen is prostate-specific antigen (PSA), prostate-specific membrane antigen  
3 (PSMA), or prostatic acid phosphatase (PAP).

1                   47.     The method according to claim 40, wherein the T cells are an isolated  
2 population T cells substantially enriched for CD4<sup>+</sup> T cells.

1                   48.     The method according to claim 40, wherein the T cells are an isolated  
2 population of T cells substantially enriched for CD8<sup>+</sup> T cells.

1                   49.     The method according to claim 40, wherein the T cells are an isolated  
2 population of T cells comprising a mixed population of CD4<sup>+</sup> and CD8<sup>+</sup> T cells.